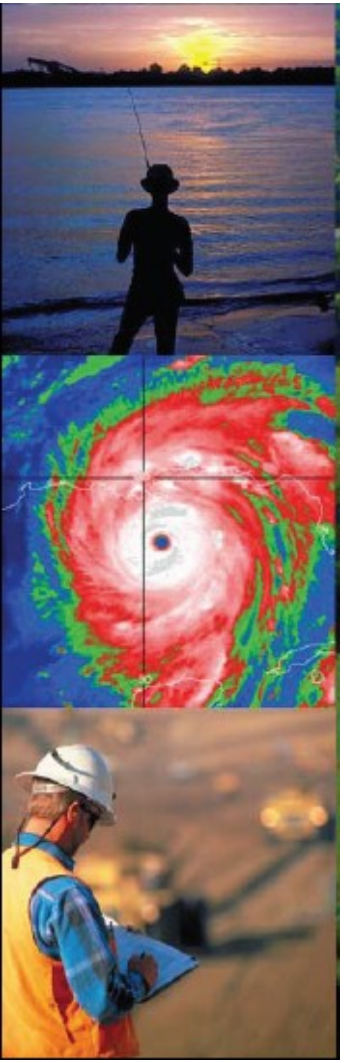


Louisiana Coastal Protection and Restoration Project (LaCPR)

One Team: Communicating, Collaborating, Consensus

Congressional Direction Summary

- Analysis and design exclusive of normal policy considerations of:
  - Category 5 equivalent comprehensive hurricane protection
  - Full range of measures for flood control, coastal restoration, and hurricane protection
- Coordinate with State of Louisiana and its agencies as non-Fed sponsor
- Preliminary Report to Congress
  - $8 M effort
  - Due June 2006
- Final Technical Report
  - $12 M effort
  - Due December 2007
- Submit reports on component areas for authorization as practicable

Source: Department of Defense Appropriations Act, 2006 (P.L. 109-148), and Department of Defense Appropriations Act, 2006 (P.L. 109-148), Chapter 3, Section 5009

Executive Summary

- 2005 Atlantic hurricane season resulted in protection for coastal Louisiana becoming added priority to restoration
- USACE and CPRA joined forces to advance LaCPR and State Master Plan together
- Restoration and protection aimed at protecting National and State interests

Executive Summary (continued)

- Coastal land loss and more frequent, intense storms increasing vulnerability of low lying populations and assets
- Protection and restoration engineering challenges significant
- Multiple lines of defense adopted as strategic planning concept

Executive Summary (continued)

- Engaging experts and advanced technologies and public to advance planning process
- Developing greater understanding of inundation potential coast wide
- Leveraging best practices, lessons learned, and world-class engineering innovations
- Exploring structural and non-structural solutions

Executive Summary (continued)

- Using risk-based approach to plan formulation, evaluation, optimization, comparison, and selection
- Levels, types, and locations of coast wide protection initially identified commensurate to risk factors
- Developed suite of recommendations considered visionary for success in near term
- Advancing work for continued project development on broader front

Federal/State Guiding Principles to Project Development

- Integrate coastal restoration, hurricane protection, flood control water resources planning objectives
- Unify Technical Reports with State Master Planning
- Closely coordinate with MS hurricane protection project
- Perform collaborative planning among agencies
- Involve and educate the public in project development
- Leverage best and brightest expertise in and outside government, nationally and abroad
- Conduct Independent Technical Review / External Peer Review
- Provide bi-weekly Vertical Team In-Progress Reviews

Ongoing Planning Efforts

- CPRA Integrated Master Plan
  - Draft October 2006
- USACE Plan – Co-Lead by MVN and CPRA Teams
  - Preliminary Technical Report, 30 June 2006
  - Final Technical Report, 30 December 2007
  - Programmatic EIS to accompany final technical report
- LRA Louisiana Speaks initiative
  - Complete March 2007

State of Louisiana
Master Plan Development (Act 8)

- Louisiana Coastal Protection and Restoration Authority (CPRA) responsible for producing State Master Plan
  - Produce a comprehensive coastal protection plan combining hurricane protection and the protection, conservation, restoration, and enhancement of coastal features
  - Address short-term and long-range needs
  - Incorporate structural, management, and institutional components in planning
- CPRA partner with USACE in LACPR effort

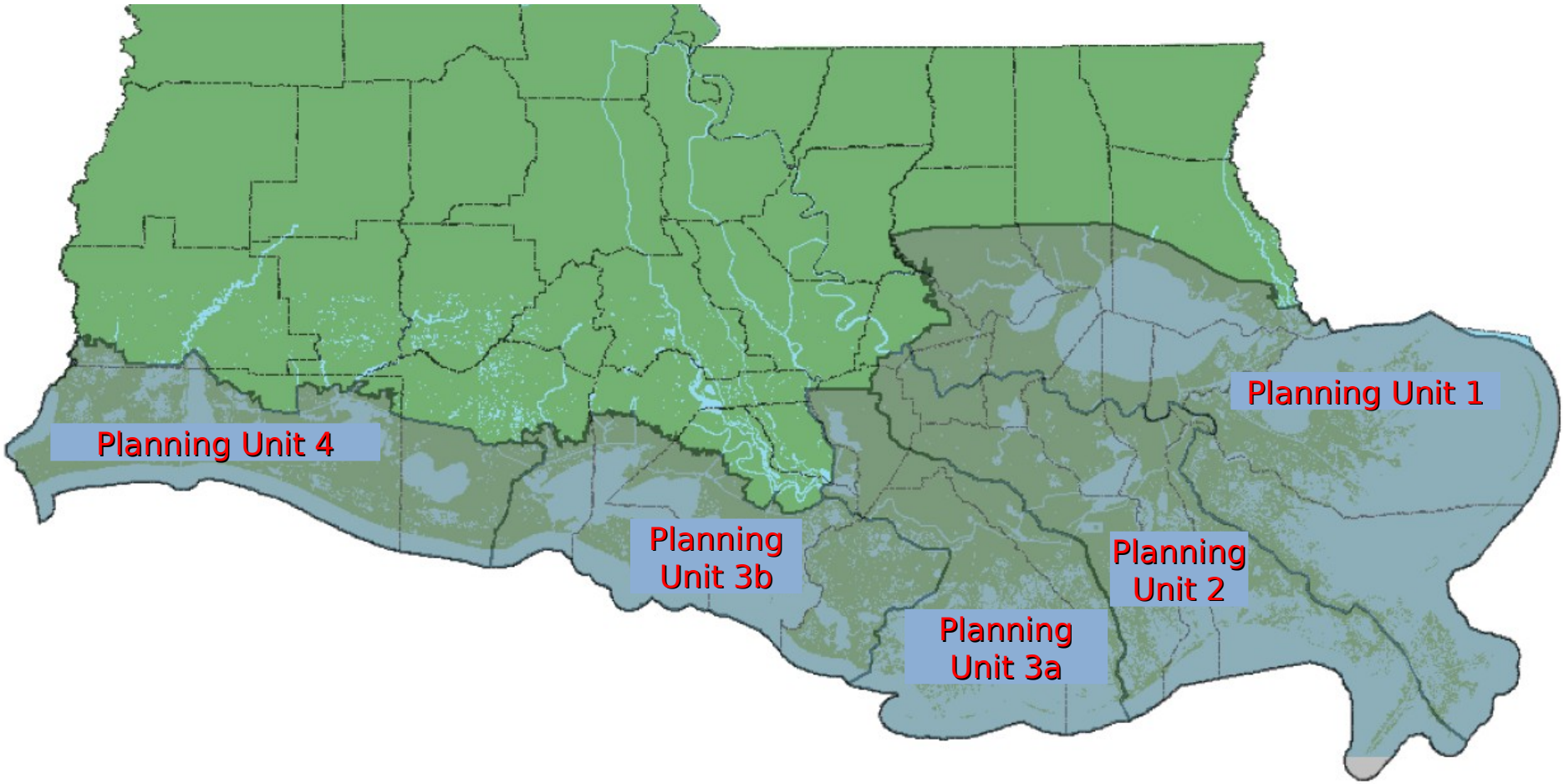
Plan Formulation Overview

- Integrate ongoing planning efforts (USACE, LRA, CPRA)
- Timetable reflecting all three efforts.
- Ensure all sources of information are included.
- Develop integrated, consensus-based solution.
- Approach adapted from established UK strategic coastal planning framework.
  - Halcrow, LTD
  - Coastal defense planning

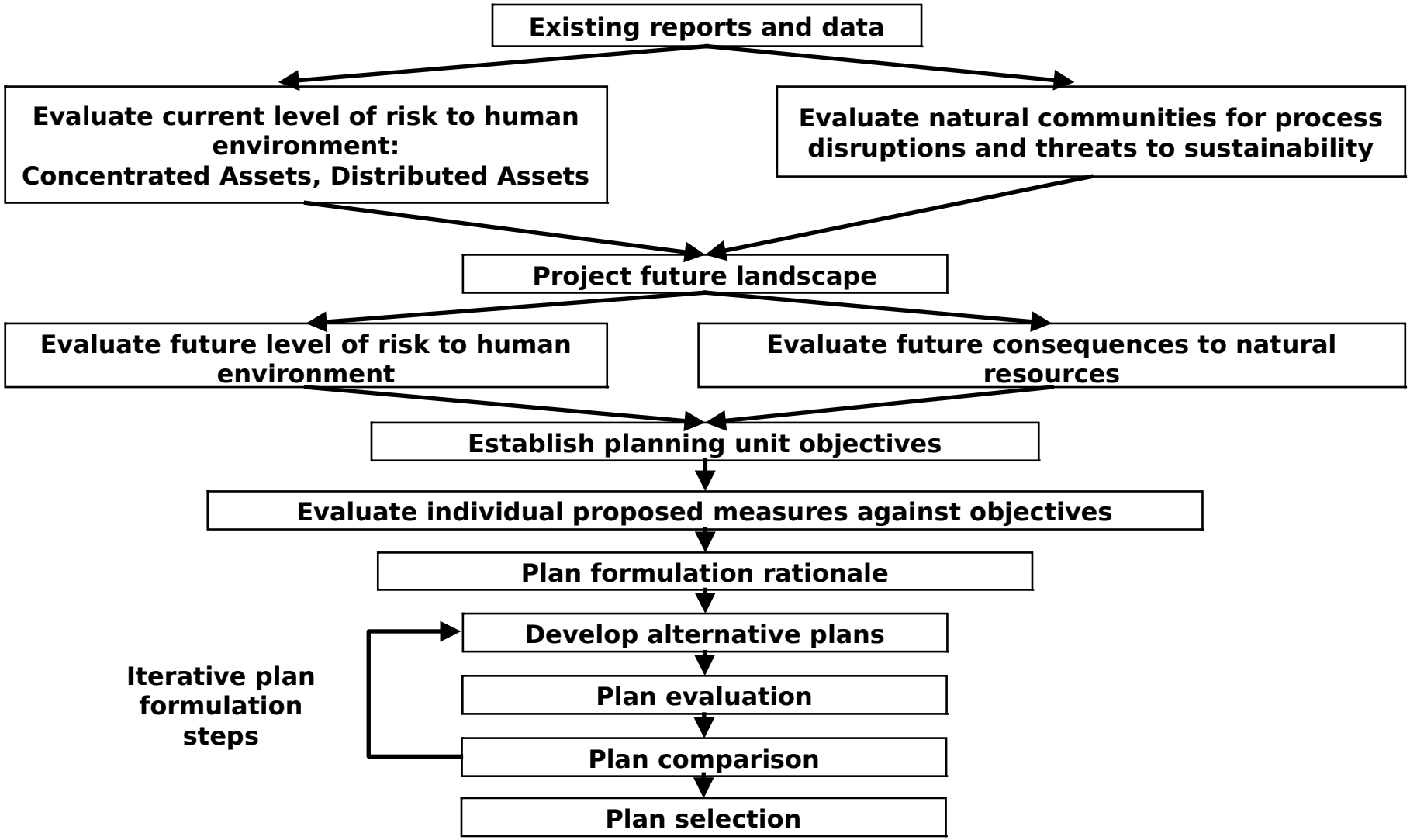
Plan Formulation Overview

- Define strategy for coastal management through 100 years
- Avoid unintended long-term consequences of short term actions
- Recognize uncertainties
  - Build on certainties, e.g. sea level will rise, land will subside
  - Appropriate level of detail for long-term appraisals
- Assume present land use, excepting known changes
  - Plan will drive future development patterns, not be driven by them
- Regular review – adaptive process management

Planning Units



Plan Formulation Process


Existing reports and data
Evaluate current level of risk to human environment:
Concentrated Assets, Distributed Assets
Evaluate natural communities for process disruptions and threats to sustainability
Project future landscape
Evaluate future level of risk to human environment
Evaluate future consequences to natural resources
Establish planning unit objectives
Evaluate individual proposed measures against objectives
Plan formulation rationale
Develop alternative plans
Plan evaluation
Plan comparison
Plan selection
Iterative plan formulation steps

Preliminary Technical Report Outline

- Threats – what storm are we designing against?
  - Category 5 and other winds, surge and waves
- Risks – what is at stake?
  - Communities - industries - coastal resources – strategic resources
- Plan Formulation Process – State Master Plan
- Formulated Alternative Plans – what can be done to protect against a range of storm threats?
  - Traditional hurricane protection structures
  - Non-structural program (flood proofing, relocation)
  - Coastal restoration features
  - Policy, institutional, and legislative actions
- Potential Recommendations
- Final PMP for Final Report to Congress

LACPR Approach
Developing A Risk Based Paradigm

- Former approaches relied on determination of net benefits and benefit to cost analysis
- New tools to inform policy decision makers
  - Advanced computer simulation modeling
  - IPET risk based framework
  - Inundation-reoccurrence maps to inform risk reduction
- Using probability and consequences scenarios to formulate and evaluate alternatives to assist decision making
- Levels, types, and locations of coast wide risk reduction to be identified commensurate to risk factors
- New risk-informed decision making approach - will use quantitative risk assessment by including consequences to populations and assets

Early Identification of Plan Components

"[The Chief of Engineers] …may submit reports on component areas of the larger protection program for authorization as soon as practicable…" Department of Defense Appropriations Act, 2006 (P.L. 109-148)

Once the framework is developed plan components or features may be identified for which accelerated planning and analysis appears to be justified. Such features would be those:

- That have a narrow range of technically feasible solutions
- For which more extensive study is not likely to significantly change problem solving approaches
- That would clearly be a component of the comprehensive system
- Are an independently functioning component for coastal protection and restoration
- Reduce risk for significant populations and assets
- Provide significant reduction in risk (greatly exceeding cost)

LACPR-CPRA Schedule

- LACPR Preliminary Report……June 30, 2006
- LACPR PDT Workshop with Dutch……July, 2006
- Policy Guidance Workshop……July, 2006
- Risk Assessment Methodology workshop……July 2006
- LRA Stakeholder workshops……July 17-21, 2006
- Draft Interim Risk Framework Report submittal…Aug 2006
- Screening storm scenarios complete……Sept 2006
- LRA formulation of alternative redevelopment scenarios……Oct 2006
- CPRA first draft Master Plan ……Oct 2006
- LRA public dissemination of scenarios……Jan 2007
- USACE Draft PEIS & Final Tech Report……Feb 2007
- USACE Final PEIS & Final Tech Report……Dec 2007